Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A remote-detection system for monitoring changes in complex impedance associated with physiological activity of a subject, comprising:

a source containing an oscillator configured to illuminate at least a portion of the subject with an electromagnetic signal beam; and

a receiver configured to receive reflections of the electromagnetic signal beam from the subject;

a detector connected to the receiver and configured to extract from the reflected signal beam variations in amplitude that are indicative of time dependent variations in the complex impedance with respect to the electrical activity of the subject's heart.

2. (Previously Presented) The remote-detection system of claim 1, wherein:

the source also includes a first antenna portion; and

the receiver includes a second antenna portion connected to the detector.

3. (Cancelled)

4. (Previously Presented) The remote-detection system in claim 2, wherein the source and the receiver are directionally coupled to a single antenna that acts as the first and second antenna portions.

5. (Cancelled)

6. (Previously Presented) The remote-detection system of claim 1, wherein:

the subject has a beating heart;

the complex impedance of the tissue of the subject changes as the heart beats;

the amplitude of the reflected electromagnetic signal beam changes as the complex impedance of the subject's tissue changes; and

the detector is configured to extract from the reflected electromagnetic signal beam variations in amplitude associated with the changes in the complex impedance of the subject's tissue.

7. (Previously Presented) A remote-detection system for monitoring the physiological activity of a subject, comprising:

means for illuminating at least a portion of the subject with an electromagnetic signal;

means for detecting reflections of the electromagnetic signal; and

means for extracting a signal indicative of the changes in the amplitude of the electromagnetic signal reflected by the subject that are associated with time dependent changes in the complex impedance with respect to the electrical activity of the subject's heart.

8. (Cancelled)

9. (Previously Presented) A method of observing changes in the complex impedance of a subject associated with physiological activity, comprising:

illuminating at least a portion of the subject with an electromagnetic signal beam; and

extracting from the reflected signal a signal indicative of the changes in the amplitude of the electromagnetic signal reflected by the subject that are associated with time dependent changes in the complex impedance with respect to electrical activity of the subject's heart.

10. (Cancelled)

11. (Previously Presented) The method of claim 9, further comprising observing the electromagnetic signal reflected by changes in the complex impedance of the illuminated tissue of the subject.

12. (Currently Amended) The method[[s]] of claim~~s 10 or~~ 11, further comprising filtering the observed electromagnetic signal to remove components of the reflected signal associated with movement of the subject.

13.-14. (Cancelled)

15. (Previously Presented) The remote-detection system of claim 1, wherein:

the source is configured to generate an electromagnetic signal beam at a predetermined frequency;

the receiver is configured to amplify the predetermined frequency of the received reflections; and

the receiver is configured to filter the amplified signal to remove noise.

16. (Previously Presented) The remote-detection system of claim 6, further comprises signal processing circuitry connected to the filter and configured to extract an electrocardiographic waveform from the reflected electromagnetic signal beam.

17. (Previously Presented) The remote-detection system of claim 16, wherein the signal processing circuitry comprises an analog to digital converter and a microprocessor.

18. (Previously Presented) The method of claim 9, further comprising producing an electrocardiographic waveform from the extracted signal.